CLAIMS

1. Steam ironing apparatus comprising

- a smoothing iron (1, 101, 201, 301) that is provided frontally with a steam-ejection nozzle (18, 118, 218, 318);
- a first and a second conduit (10, 11, 110, 111, 210, 211, 310, 311) for the passage of the steam flow, said second conduit (11, 111, 211, 311) being in communication with said nozzle (18, 118, 218, 318);
- the ejection of steam from said nozzle (18, 118, 218, 318) being controlled with the aid of valve means (13, 113, 228, 329) having a first operating setting, in which said ejection of steam is prevented, and a second operating setting in which said ejection of steam is enabled;
- control means (17, 117, 217, 317) provided on the outside of said smoothing iron (1, 101, 201, 301) to switch over said valve means (13, 113, 228, 329) to and from said first and said second operating setting,

characterized in that it further comprises containment means (21, 121, 221, 321) adapted to hold a liquid (L), said containment means being in communication with said second conduit (11, 111, 211, 311) via a third conduit (22, 122, 222, 322) in such a manner that, when said valve means (13, 113, 228, 329) are switched in said second operating setting thereof, the steam flowing through said second conduit (11, 111, 211, 311) mixes up with said liquid (L) flowing in from said third conduit (22, 122, 222, 322) so as to produce humidified steam (V_2) to be ejected through said nozzle (18, 118, 218, 318).

2. Steam ironing apparatus according to claim 1, **characterized in that** the transfer of said liquid (L) from said containment means (21, 121,

221, 321) into said second conduit (11, 111, 211, 311) is obtained by virtue of the pressure drop that is brought about by the passage of said steam flowing through said second conduit (11, 111, 211, 311).

3. Steam ironing apparatus according to claim 1, **characterized in that** the connection of said second conduit (11, 111, 211, 311) with said third conduit (22, 122, 222, 322) is situated downstream of said valve means (13, 113, 228, 329).

4. Steam ironing apparatus according to one or more of the preceding claims, **characterized in that** said containment means (21, 121, 221, 321) are housed inside said smoothing iron (1, 101, 201, 301).

5. Steam ironing apparatus according to one or more of the preceding claims, in which said smoothing iron (1, 101, 201, 301) is provided on its bottom side with a plate (4, 104, 204, 304) provided with a plurality of perforations (6, 106, 206, 306) for the ejection of steam towards the fabrics or clothing item being ironed, **characterized in that** within said plate (4, 104, 204, 304) there are provided means (20, 120, 220, 320) for the production of dry steam, said means being in communication with said perforations (6, 106, 206, 306) in such a manner as to ensure that the steam ejected through said perforations (6, 106, 206, 306) is constituted by dry steam (V_1).

6. Steam ironing apparatus according to claim 5, **characterized in that** said means (20, 120, 220, 320) for the production of dry steam comprise a vaporization chamber (20, 120, 220, 320) located adjacent to at least a heating element (7, 107, 207) embedded in said plate (4, 104, 204, 304) and communicating with said first conduit (10, 110, 210, 310) so as to let steam into said chamber (20, 120, 220, 320).

7. Steam ironing apparatus according to claim 6, **characterized in that** said vaporization chamber (20, 120) communicates directly with said

first conduit (10, 110) on a side, and said perforations (6, 106) on the other side.

8. Steam ironing apparatus according to claim 5, **characterized in that** the passage of steam through said first and said second conduit (10, 11, 110, 111) and the ejection of steam (V_1, V_2) from said perforations (6, 106) and from said nozzle (18, 118) are controlled by respective first and second valve means (12, 13, 112, 113).

9. Steam ironing apparatus according to claim 8, **characterized in that** said first and second valve means (12, 13, 112, 113) are capable of being actuated by first and second control means (16, 116, 17, 117), respectively, which are provided on the outside of said smoothing iron (1, 101).

10. Steam ironing apparatus according to one or more of the preceding claims, **characterized in that** at least a length (111a) of said second conduit (111) upstream of the site at which said second conduit (111) connects with said third conduit (122), passes through the interior of said means (120) for the production of dry steam.

11. Steam ironing apparatus according to one or more of the preceding claims, wherein said first conduit (210, 310) is communicating, via said means for the production of dry steam (120, 320), with both said perforations (206, 306) and said nozzle (218, 318) through the interposition of distribution means (230, 330) and valve means (228, 328, 329) adapted to selectively divert the flow of steam towards said perforations (206, 306) and/or towards said nozzle (218, 318).

12. Steam ironing apparatus according to claim 11, **characterized in that** said distribution means (230, 330) comprise a manifold (231, 331) and a distribution chamber (232, 332) communicating with each other, said manifold (231, 331) being further communicating with said means for

the production of dry steam (220, 320) via a first aperture (213, 313), and said distribution chamber (232, 332) being in communication with said second conduit (211, 311) and/or said perforations (206, 306) through the interposition of said valve means (228, 328, 329).

13. Steam ironing apparatus according to claim 12, **characterized in that** said valve means (228, 328, 329) are housed within said distribution chamber (232, 332).

14. Steam ironing apparatus according to claim 11, **characterized in that** said valve means (228) are constituted by a two-way valve.

15. Steam ironing apparatus according to claim 14, **characterized in that** said two-way valve (228) has a first operating setting, in which the steam is delivered to said perforations 206 through said second aperture (212), and a second operating setting, in which said steam is delivered to said nozzle (218) through said second conduit (211).

16. Steam ironing apparatus according to claim 15, **characterized in that** said two-way valve (228) is capable of being switched over to and from said first and said second operating setting thereof with the aid of control means (217) located on the outside of said smoothing iron (201).

17. Steam ironing apparatus according to claim 15, **characterized in that** the flow of steam towards said nozzle (218) is totally shut off when said valve means (228) are in said first operating condition thereof, whereas the flow of steam towards said perforations (206) is totally shut off when said valve means (228) are in said second operating condition thereof.

18. Steam ironing apparatus according to claim 11, **characterized in that** said valve means (328, 329) are constituted by a first valve (328) and a second valve (329).

19. Steam ironing apparatus according to claim 18, **characterized in that** said first valve (328) has a first operating shut-off setting, in which the flow of steam towards said perforations (306) is totally prevented, and a second operating open-valve setting, in which steam is allowed to flow from said manifold (331) towards said distribution chamber (332) and, from this distribution chamber (332), towards the perforations (306) via said second aperture (312) for being ejected therethrough.

20. Steam ironing apparatus according to claim 18, **characterized in that** said second valve (329) has a first operating shut-off setting, in which the flow of steam towards said nozzle (318) is totally prevented, and a second operating open-valve setting, in which steam is allowed to flow from said manifold (331) towards said distribution chamber (332) and, from this distribution chamber (332), towards said nozzle (318) via said second conduit (311) for being ejected therethrough.

21. Steam ironing apparatus according to claims 19 and 20, **characterized in that** said first valve (328) and said second valve (329) are capable of being switched over to and from said first and said second operating settings thereof with the aid of respective first and second control means (316, 317) provided on the outside of said smoothing iron (301).

22. Steam ironing apparatus according to one or more of the preceding claims, **characterized in that** said steam (V_2) being ejected from said nozzle (18, 118, 218, 318) is constituted by a temporary spurt of high-pressure humidified steam obtained through the temporary actuation of said control means (17, 117, 217, 317).

23. Steam ironing apparatus according to one or more of the preceding claims, **characterized by** what has been described and illustrated with reference to the accompanying drawings.